

C L A I M S

1. Method to separate particles from a mixture consisting of particles, characterized in that the method comprises
5 supplying the mixture near a feeding point (2) of a guiding surface (1,19,30) installed in an inclining position, making the mixture to move for a distance along the guiding surface (1,19,30) installed in an inclining position from the feeding point (2) to a discharge point (3) of the guiding surface (1,19,30) installed in an inclining position and selectively collecting particles of the mixture differently moving along past the discharge point (3) by means of a number of collecting units (12,13,32,34) that are installed in different positions.

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2. Method according to claim 1, characterized in that the particles of the mixture to be separated, first are subjected to a separation on the basis of the size of the particles before being supplied to the guiding surface (1,19,30) installed in an inclining position.

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3. Method according to claim 1 or 2, characterized in that the guiding surface (1,19,30) installed in an inclining position is installed such that the direction of motion (Z) of the mixture supplied to the guiding surface (1,19,30) installed in an inclining position near the feeding point (2), comprises a component (Z1) according to the guiding surface (1,19,30) which is directed opposite to the direction of motion (X) of the mixture along the guiding surface (1,19,39) when this mixture is moving along from the feeding point (2) to the discharge point (3).

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4. Method according to any one of the preceding claims 1 to 3, characterized in that the method comprises the subjecting

of the mixture moving along past the discharge point (3) to an air stream, before this mixture is collected by the different collecting units (12,13).

- 5 5. Method according to any one of the preceding claims 1 to 4, characterized in that the method comprises the adjusting of the inclination (A) of the guiding surface (1,19,30) installed in an inclining position.
- 10 6. Method according to any one of the preceding claims 1 to 5, characterized in that the method comprises the moving back and forth of the guiding surface (1,19) installed in an inclining position.
- 15 7. Device for applying the method according to any one of the preceding claims 1 to 6, characterized in that the device comprises a guiding surface (1,19,30) installed in an inclining position to make a mixture to move along between a feeding point (2) and a discharge point (3) of the guiding surface (1,19,30) installed in an inclining position, situated at a distance of the feeding point (2), a feeding device (4) for supplying a mixture near the feeding point (2) of the guiding surface (1,19,30) installed in an inclining position and a number of collecting units (12,13,32,34) situated in different positions past the discharge point (3) of the guiding surface (1,19,30) installed in an inclining position in order to selectively collect different particles of the mixture differently moving along.
- 30 8. Device according to claim 7, characterized in that the feeding device (4) comprises a vibrating table (5) which comprises at least one opening (25), situated between the extremities of the vibrating table (5) and which is

installed above a guiding surface (19) installed in an inclining position for making particles of a certain size to pass from the vibrating table (5) to the guiding surface (1,19,30) installed in an inclining position.

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9. Device according to claim 8, characterized in that the size of the at least one opening (25) is adjustable.

10. Device according to any one of the preceding claims 7 to 9, characterized in that the distance between the discharge point (26) for the mixture from the feeding device (4) and the feeding point (2) for the mixture from the guiding surface (1,9) installed in an inclining position is of the order of magnitude of 0.15 metres.

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11. Device according to any one of the preceding claims 7 to 10, characterized in that the guiding surface (1,19,30) installed in an inclining position is consisting of a plate provided with side flanges (20,21) comprising an essentially flat bottom surface (22).

12. Device according to any one of the preceding claims 7 to 10, characterized in that the guiding surface (1,19,30) installed in an inclining position is consisting of a plate provided with side flanges (20,21), which, according to a longitudinal direction from the feeding point (2) to the discharge point (3) comprises a bottom surface (22) which is essentially slightly curved, at least for a certain distance.

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13. Device according to any one of the preceding claims 7 to 12, characterized in that at least part of the bottom surface (22) of the guiding surface (1,19,30) installed in an inclining position is uneven or rough.

14. Device according to any one of the preceding claims 7 to 13, characterized in that at least part of the bottom surface (22) of the guiding surface (1) installed in an inclining position is provided with blow openings (36).
15. Device according to any one of the preceding claims 7 to 14, characterized in that the guiding surface (1,19,30) installed in an inclining position is situated at an angle lying between 30° and 40° with respect to a horizontal.
16. Device according to any one of the preceding claims 7 to 15, characterized in that the guiding surface (1,19,30) installed in an inclining position is situated at an angle of the order of magnitude of 32° with respect to a horizontal.
17. Device according to any one of the preceding claims 7 to 16, characterized in that the device comprises adjusting parts (8) for adjusting the inclination (A) of the guiding surface (1,19,30) installed in an inclining position.
18. Device according to any one of the preceding claims 7 to 17, characterized in that the guiding surface (1,19) installed in an inclining position is part of a vibrating table (44) moving the guiding surface (1,19) installed in an inclining position back and forth essentially according its longitudinal direction.
19. Device according to any one of the preceding claims 7 to 18, characterized in that the guiding surface (1,19,30) installed in an inclining position is installed under the aforesaid feeding device (4), such that the direction of motion (Z) of the mixture supplied to the guiding surface

(1,19,30) installed in an inclining position near the feeding point (2) comprises a component (Z1) according to the guiding surface (1,19,30) which is directed opposite to the direction of motion (X) of the mixture along the guiding 5 surface (1,19,30) when this mixture is moving along from the feeding point (2) to the discharge point (3).

20. Device according to any one of the preceding claims 7 to 19, characterized in that at least one collecting unit (13) 10 comprises at least one adjustable separating wall (28) enabling to adjust the position of the at least one collecting unit (13) with respect to the discharge point (3) of the guiding surface (1,19,30).

15 21. Device according to claim 20, characterized in that such a separating wall (28) is installed rotatably around an axis (29) running parallel to the cross direction of the guiding surface (1,19,30) installed in an inclining position.

20 22. Device according to any one of the preceding claims 7 to 21, characterized in that the device likewise comprises an apparatus (38) to create an air stream in the area between the discharge point (3) of the guiding surface (30) 25 installed in an inclining position and the different collecting units (12,13).

23. Device according to any one of the preceding claims 7 to 22, characterized in that at least one of the collecting units (34) is consisting of a second guiding surface (30) 30 installed in an inclining position for collecting particles of the mixture from the first guiding surface (1) installed in an inclining position, acting as a feeding device for supplying the mixture to the second guiding surface (30) installed in an inclining position.